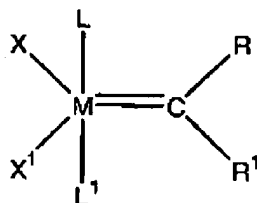


Listing of Claims:

1. (Original) A process for the preparation of a, optionally hydrogenated, nitrile rubber comprising the steps of
- a) reacting a nitrile rubber in the absence of any co-olefin and in the presence of at least one compound selected from the group consisting of compounds of the general formulas I, II, III or IV,



Formula I

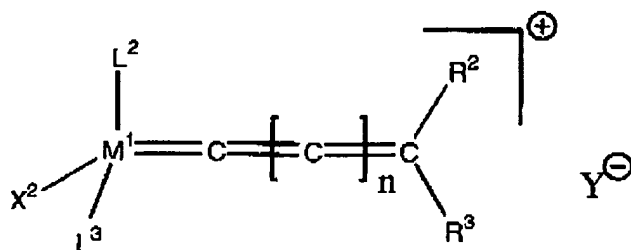
wherein:

M is Os or Ru,

R and R' are, independently, hydrogen or a hydrocarbon selected from the group consisting of C₂-C₂₀ alkenyl, C₂-C₂₀ alkynyl, C₁-C₂₀ alkyl, aryl, C₁-C₂₀ carboxylate, C₁-C₂₀ alkoxy, C₂-C₂₀ alkenyloxy, C₂-C₂₀ alkynyloxy, aryloxy, C₂-C₂₀ alkoxycarbonyl, C₁-C₂₀ alkylthio, C₁-C₂₀ alkylsulfonyl and C₁-C₂₀ alkylsulfinyl,

X and X' are independently any anionic ligand,

L and L' are, independently any neutral ligand, optionally, L and L' can be linked to one another to form a bidentate neutral ligand;



Formula II

wherein:

M^1 is Os or Ru;

R^2 and R^3 are, independently, hydrogen or a hydrocarbon selected from the group consisting of C_2 - C_{20} alkenyl, C_2 - C_{20} alkynyl, C_1 - C_{20} alkyl, aryl, C_1 - C_{20} carboxylate, C_1 - C_{20} alkoxy, C_2 - C_{20} alkenyloxy, C_2 - C_{20} alkynyloxy, aryloxy, C_2 - C_{20} alkoxy carbonyl, C_1 - C_{20} alkylthio, C_1 - C_{20} alkylsulfonyl and C_1 - C_{20} alkylsulfanyl,

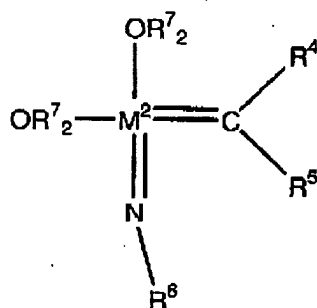
X^2 is an anionic ligand, and

L^2 is a neutral mono- or polycyclic π -bonded ligand,

L^3 is a ligand selected from the group consisting of phosphines, sulfonated phosphines, fluorinated phosphines, functionalized phosphines bearing up to three aminoalkyl-, ammoniumalkyl-, alkoxyalkyl-, alkoxy carbonylalkyl-, hydroxycarbonylalkyl-, hydroxyalkyl- or ketoalkyl- groups, phosphites, phosphinites, phosphonites, phosphinamines, arsines, stibenes, ethers, amines, amides, imines, sulfoxides, thioethers and pyridines,

Y is a non-coordinating anion,

n is an integer in the range of from 0 to 5,



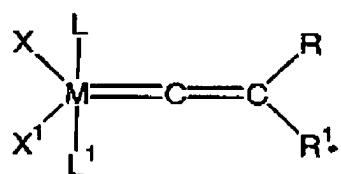
Formula III

wherein

M^2 is Mo or W,

R^4 , R^5 are, independently, hydrogen or a hydrocarbon selected from the group consisting of C_2 - C_{20} alkenyl, C_2 - C_{20} alkynyl, C_1 - C_{20} alkyl, aryl, C_1 - C_{20} carboxylate, C_1 - C_{20} alkoxy, C_2 - C_{20} alkenyloxy, C_2 - C_{20} alkynyloxy, aryloxy, C_2 - C_{20} alkoxycarbonyl, C_1 - C_{20} alkylthio, C_1 - C_{20} alkylsulfonyl and C_1 - C_{20} alkylsulfinyl;

R^6 and R^7 are independently selected from any unsubstituted or halo-substituted alkyl, aryl, aralkyl groups or silicon-containing analogs thereof,



Formula IV

wherein

M is Os or Ru,

R and R^1 are independently selected from the group consisting of hydrogen, substituted or unsubstituted alkyl, and substituted or unsubstituted alkyl

X and X^1 are independently any anionic ligand, and

L and L¹ are independently any neutral ligand;
and optionally

b) hydrogenating the product of step a).

2. (Original) A process according to Claim 1 wherein the hydrogenation is performed under homogeneous catalytic conditions.
3. (Original) A process according to Claim 2 wherein the homogeneous catalytic reduction is carried out *in situ* without first isolating the product of step a).
4. (Original) A process according to Claim 1 wherein no further hydrogenation catalyst is added before or during step b).
5. (Original) A process according to Claim 1, wherein the metathesis catalyst is a compound of Formula I wherein L and L¹ are independently selected from the group consisting of trialkylphosphines, imidazolidinylidenes or imidazolidines.
6. (Original) A process according to Claim 5 wherein either L or L¹ is a trialkylphosphine and the remaining ligand is a imidazolidinylidenes, X and X¹ are chloride ions and M is ruthenium.
7. (Original) A process according to Claim 6 wherein the ratio of compound to nitrile rubber is in the range of from 0.005 to 5.
8. (Original) A process according to Claim 7, wherein the process is carried out in an inert solvent selected from the group consisting of monochlorobenzene, dichloromethane, benzene, toluene, tetrahydrofuran and cyclohexane.

9. (Original) A process according to Claim 1, wherein the hydrogenation is carried out using a catalyst of formula:



wherein each R^a is independently selected from the group consisting of a C_1 - C_8 -alkyl group, a C_4 - C_8 -cycloalkyl group, a C_6 - C_{15} -aryl group and a C_7 - C_{15} -aralkyl group;

B is selected from the group consisting of phosphorus, arsenic, sulfur, and a sulphoxide group ($S=O$);

X^a is selected from the group consisting of hydrogen and an anion; and

l is 2, 3 or 4, m is 2 or 3 and n is 1, 2 or 3.

10. (Original) A process according to Claim 9 wherein the hydrogenation catalyst is $(PPh_3)_3RhCl$.
11. (Currently Amended) ~~A An optionally hydrogenated~~, nitrile rubber having a molecular weight (M_w) in the range of from 20,000 to 250,000, a Mooney viscosity (ML 1+4 @ 100 deg. C) of in the range of from 1 to 50; and a MWD (or polydispersity index) of less than 2.5:
12. Cancelled.
13. (Currently Amended) A polymer composite according to Claim ~~[[12]]~~ 11 wherein the raw polymer Mooney viscosity (ML 1+4 @ 100°C) is below 50.
14. (Original) A polymer composite according to Claim 12 wherein the polymer composite further comprises a peroxide system.

15. (Original) A process for preparing a polymer composite according to Claim 12 comprising reacting at least one, optionally hydrogenated, nitrile rubber polymer having a Mooney viscosity (ML 1+4 @ 100°C) in the range of from 50-30, at least one filler and optionally at least one cross-linking agent.
16. (Original) A process for the manufacture of a shaped article comprising the step of injection molding a polymer composite comprising at least one, optionally hydrogenated, nitrile rubber polymer having a Mooney viscosity (ML 1+4 @ 100°C) in the range of from 50-30, at least one filler and at least one cross-linking agent.
17. (Original) A process according to Claim 16, wherein the shaped article is seal, hose, bearing pad, stator, well head seal, valve plate, cable sheathing, wheel, roller, in place gaskets or pipe seal.